

What Is Claimed Is:

1. A method for measuring an absolute steering angle of a steering shaft for a vehicle using a first rotatable body and a second rotatable body that rotate together with the steering shaft of the vehicle at a predetermined rotation ratio, respectively, the method comprising the steps of:

obtaining a Ψ_M' value by measuring a relative rotational angle Ψ' of the first rotatable body and obtaining a θ_M' value by measuring the relative rotational angle θ' of the second rotatable body by means of angle sensors whose measurement ranges are Ω_s ;

obtaining θ_C 's by calculating a plurality of relative rotational angles θ 's of the second rotatable body corresponding to the Ψ_M' value, using the relation between the relative rotational angle Ψ' of the first rotatable body and the relative rotational angle θ' of the second rotatable body;

obtaining a frequency i-value of the first rotatable body by comparing the plurality of θ_C 's to the θ_M' value; and

obtaining an absolute steering angle Φ_1 of the steering shaft based on the relation between Ψ and Φ , after the absolute rotational angle Ψ is obtained by using the i-value.

2. The method according to claim 1, further comprising the steps of:

obtaining a present i-value comparing a previous Ψ_M' value to a present Ψ_M' value, obtaining a present value for the absolute rotational angle Ψ of the first rotatable body, and obtaining a present Φ_1 value, which is a successive value of the Φ_1 measurement, based on the relation between Ψ and Φ .

3. The method according to claim 1, further comprising the steps of:

obtaining a plurality of Ψ_C' values by calculating a plurality of Ψ' values corresponding to the θ_M' value using the relation between the Ψ' values and the θ' values;

obtaining a frequency j of the second rotatable body by comparing the plurality
5 of Ψ_C' values to the Ψ_M' value;

obtaining an absolute steering angle $\Phi 2$ of the steering shaft based on the relation between θ and Φ , wherein the absolute rotational angle θ of the second rotatable body is obtained by using the j -value; and

obtaining the steering angle Φ of the steering shaft by taking the mean value of
10 the $\Phi 1$ and the $\Phi 2$.

4. The method according to claim 3, further comprising the steps of:

obtaining a present i -value from a previous i -value after comparing a previous Ψ_M' value to a present Ψ_M' value, obtaining a present value for the absolute rotational
15 angle Ψ from the obtained present i -value, and obtaining a present $\Phi 1$ value from a relation between Ψ and Φ ;

obtaining a present j -value from a previous j -value after comparing a previous θ_M' value to a present θ_M' value, obtaining a present value for the absolute rotational angle θ from the obtained present j -value, and obtaining a present $\Phi 2$ value from a
20 relation between θ and Φ ; and

taking the mean value of the present $\Phi 1$ value and the present $\Phi 2$ value.

5. The method according to claim 4, wherein if a difference between the $\Phi 1$ value and the $\Phi 2$ value, $\Delta\Phi$, is greater than a predetermined value, further comprising
25 the steps of:

reobtaining the i-value of the first rotatable body by comparing a plurality of θ_C' values to a θ_M' value, in which the plurality of θ_C' values are obtained by calculating a plurality of θ 's corresponding to a Ψ_M' value based on the relation between the θ' and the Ψ' ;

5 reobtaining a j-value of a second rotatable body by comparing a plurality of Ψ_C' values to a Ψ_M' value, in which the plurality of Ψ_C' values are obtained by calculating a plurality of Ψ 's corresponding to a θ_M' value based on the relation between the θ' and the Ψ' ; and

taking the mean value of recalculated $\Phi 1$ and $\Phi 2$ values by using the reobtained
10 i-value and the j-value.